TWIN LAKES SERVICE AREA (PWSNO 1280099)
SOURCE WATER ASSESSMENT REPORT

July 31, 2001

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This risk assessment is based on a land use inventory in the well recharge zone, sensitivity factors associated with how the well was constructed, and aquifer characteristics.

This report, *Source Water Assessment for Twin Lakes Service Area*, describes the public drinking water wells; the well recharge zone and potential contaminant sites located inside the recharge zone boundaries. This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this public water system. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

Twin Lakes Service Area drinking water is supplied by three wells pumping from the Rathdrum Prairie Aquifer. The district serves a population of about 1749 people in the area between Rathdrum and Twin Lakes in Kootenai County, Idaho. Historically, Twin Lakes Service Area has had few water quality problems. A groundwater Susceptibility Analysis conducted by DEQ May 31, 2001 found the wells to be at moderate risk of contamination, mostly because of natural factors associated with local geology.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For source water protection in its own jurisdiction, Twin Lakes Service Area should first attend to the improvements outlined in the October 2000 Sanitary Survey, especially the electrical cable that was compromising the well seal of Well #2 at the time of the inspection. Coating the roof of the Tree Farm Reservoir is also important for preventing contamination. Twin Lakes Service Area should continue to promote its back flow prevention program. The district can sponsor public education efforts like distribution of "Buster Backflow" comics to schoolchildren in its service area. Water users can be invited to participate in voluntary ground water protection activities like household hazardous materials collection days.

Because 186 public water systems in Idaho draw water from the Rathdrum Prairie Aquifer, they should consider forming a regional group to represent their interests before state, county and municipal governing bodies when regulatory tools like zoning overlays, or enactment of building codes are the most appropriate ground water protection measures. Partnerships with state and local agencies and industry groups should also be established.

Due to the time involved with the movement of ground water, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. For assistance in developing protection strategies, please contact your regional Department of Environmental Quality office or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR TWIN LAKES SERVICE AREA

Section 1. Introduction - Basis for Assessment

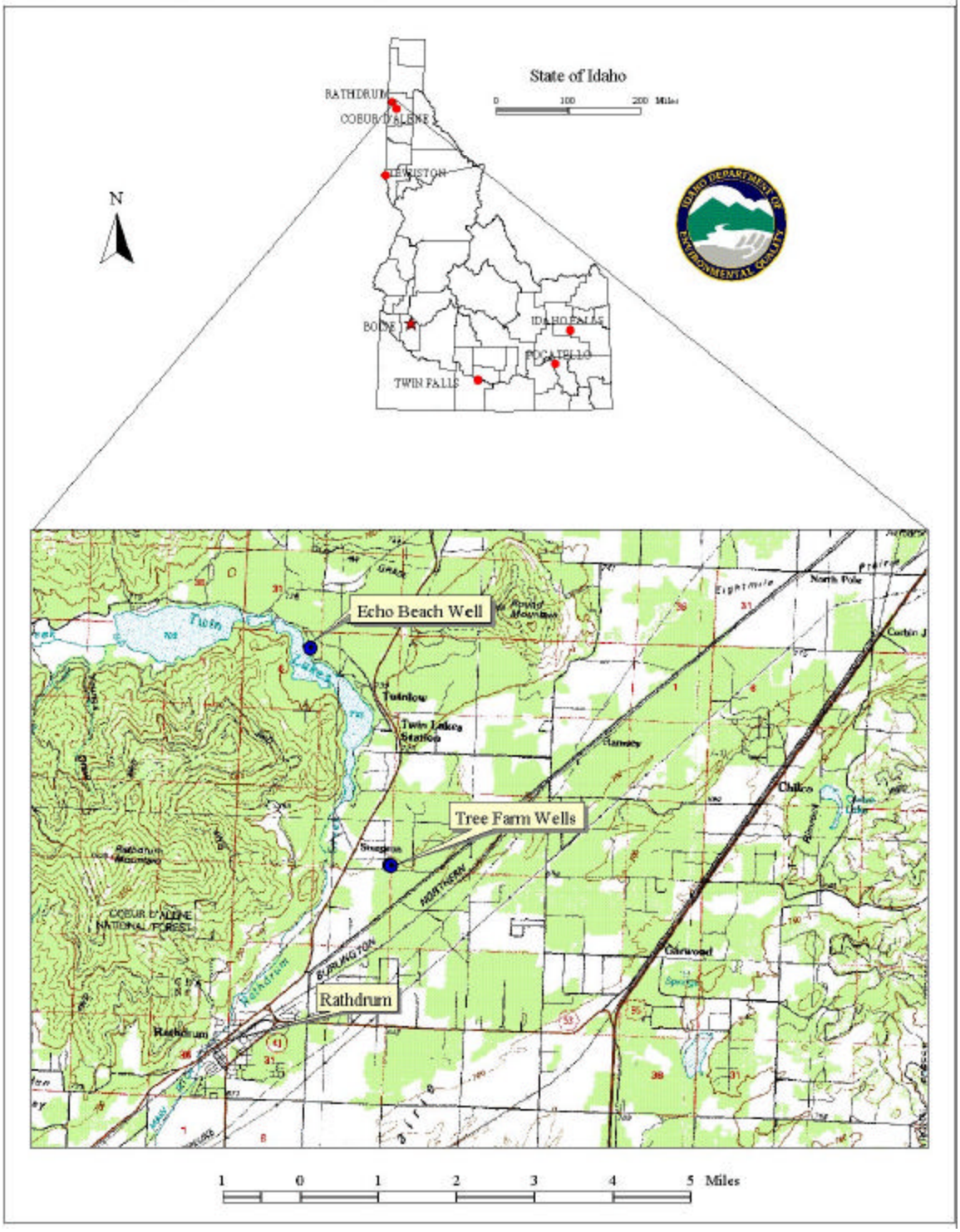
The following sections contain information necessary for understanding how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and an inventory of significant potential sources of contamination identified within that area are included. The ground water susceptibility analysis worksheets used to develop this assessment are attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess every public drinking water source in Idaho for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. These assessments are based on a land use inventory inside the delineated recharge zones, sensitivity factors associated with how the well is constructed, and aquifer characteristics. The state must complete more than 2900 assessments by May of 2003. Because resources and the time available to accomplish assessments are limited, an in-depth, site-specific investigation for every public water system is not possible.

The results of the source water assessment should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system. The ultimate goal of this assessment is to provide data to local communities for developing a protection strategy for their drinking water supply. The Idaho Department of Environmental Quality recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Figure 1. Geographic Location of Twin Lakes Service Area



Section 2. Preparing for the Assessment

Defining the Zones of Contribution - Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the well recharge area into time of travel (TOT) zones indicating the number of years necessary for a particle of water to reach a well. DEQ used a refined computer model approved by the EPA to determine the time of travel for water public water systems pump from the Rathdrum Prairie Aquifer. The computer model used data assimilated by DEQ from a variety of sources including local well logs.

The delineation for the Tree Farm wells is divided into 0-to-3, 3-to-6 and 6-to-10-year time-of-travel zones. The delineation for the Echo Beach well terminates at the edge of the aquifer. Water from the aquifer recharge zone takes an estimated 3-to-6 years to reach the well.

Twin Lakes Service Area serves a population of approximately 1749 people located in a rural residential area between Rathdrum and Twin Lakes in Kootenai County, Idaho (Figure 1). Public drinking water for Twin Lakes Service Area customers is supplied from the Tree Farm well field, comprised of two wells; and the Echo Beach well.

The delineated source water assessment areas for the Twin Lakes Service Area Tree Farm wells is a long, narrow arc curving north and then westward from the wells (Figure 2). The Echo Beach delineation extends northwest to the edge of the Rathdrum Prairie Aquifer at Twin Lakes (Figure 3).

Identifying Potential Sources of Contamination

The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. Inventories for public water systems in Idaho were conducted in two-phases. The first phase involved identifying and documenting potential contaminant sources within the Twin Lakes Service Area source water assessment areas through the use of computer databases and Geographic Information System maps developed by DEQ. The second, or enhanced, phase of the contaminant inventory involved contacting the operator to validate the sources identified in phase one and to add any additional potential sources in the area. This task was undertaken with the assistance of Richard Fairhurst.

Figures 2 and 3, *Twin Lakes Service Area Delineation and Potential Contaminant Inventory* on pages 7 and 8 of this report shows the locations of the Twin Lakes Service Area wells, the zones of contribution DEQ delineated for the wells, and approximate locations of potential contaminant sites. Numbers identifying the sites on the map correspond to additional information about the sites on Table 2 (page 9).

Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. When a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation.

Section 3. Susceptibility Analysis

The susceptibility of the Twin Lakes Service Area wells to contamination was assessed on the following factors:

- physical integrity of the wells,
- hydrologic characteristics,
- land use characteristics, and potentially significant contaminant sources
- historic water quality

The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. A high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking. The Susceptibility Analysis Worksheets, Attachment A, show in detail how each well scored.

Well Construction

Well construction directly affects the ability of the wells to protect the aquifer from contaminants. Lower scores imply a well that can better protect the water. This portion of the susceptibility analysis relies on information from individual well logs and from the most recent sanitary survey of the public water system. The log for the Echo Beach well in the public water system file for Twin Lakes Service Area doesn't included any lithologic data, or details about the well casing and surface seal. The last Sanitary Survey of the system was conducted October 24, 2000.

The Twin Lakes Service Area drinking water is supplied by three wells that extract ground water from the Rathdrum Prairie Aquifer, primarily for domestic uses. No treatment is required before the water enters the distribution system. The year 2000 Sanitary Survey says that system is generally well run and in compliance with *Idaho Rules for Public Drinking Water Systems.* However, it noted that a broken electrical conduit on well head #2 was compromising the well seal. The surface seal depth for Well #1 meets current Idaho Department of Water Resources standards for wells in an unconsolidated formation, but points were marked against the well because the casing and seal both terminate in gravel. Table 1 summarizes construction and site characteristics for each well.

Table 1. Selected Construction Characteristics of Twin Lakes Service Area Wells.

Well	Total Depth (ft.)	Depth of Surface Seal (ft)	Depth of Casing (ft)	Well Screen Depth Range (ft)	Static Water Level (ft
Tree Farm Well #1	350	21	350	331/349	285
Tree Farm Well #2	343	18+	343	325/342	298
Echo Beach Well	355	unknown	351	339/351	322

Figure 2. Twin Lakes Service Area Delineation and Potential Contaminant Inventory.

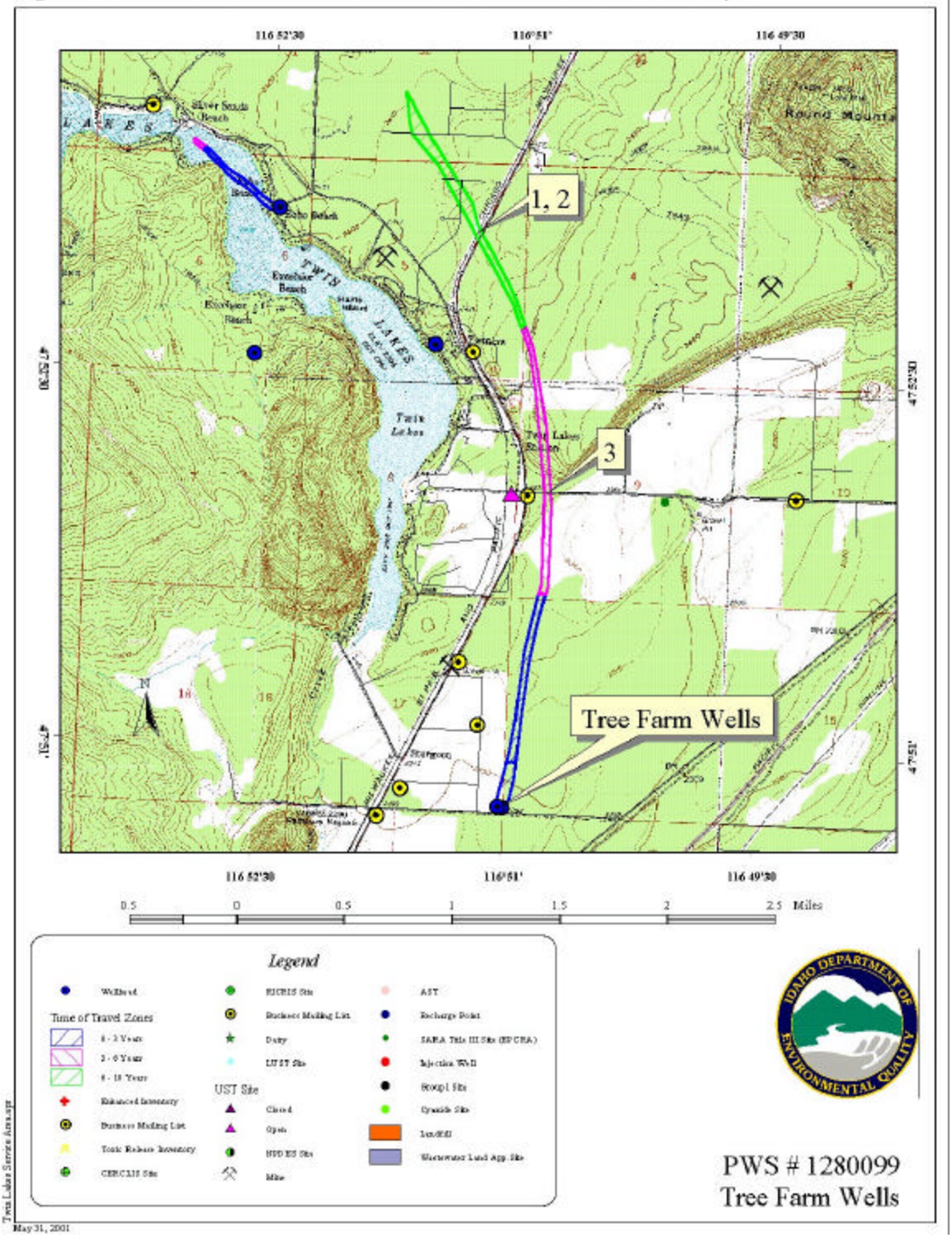
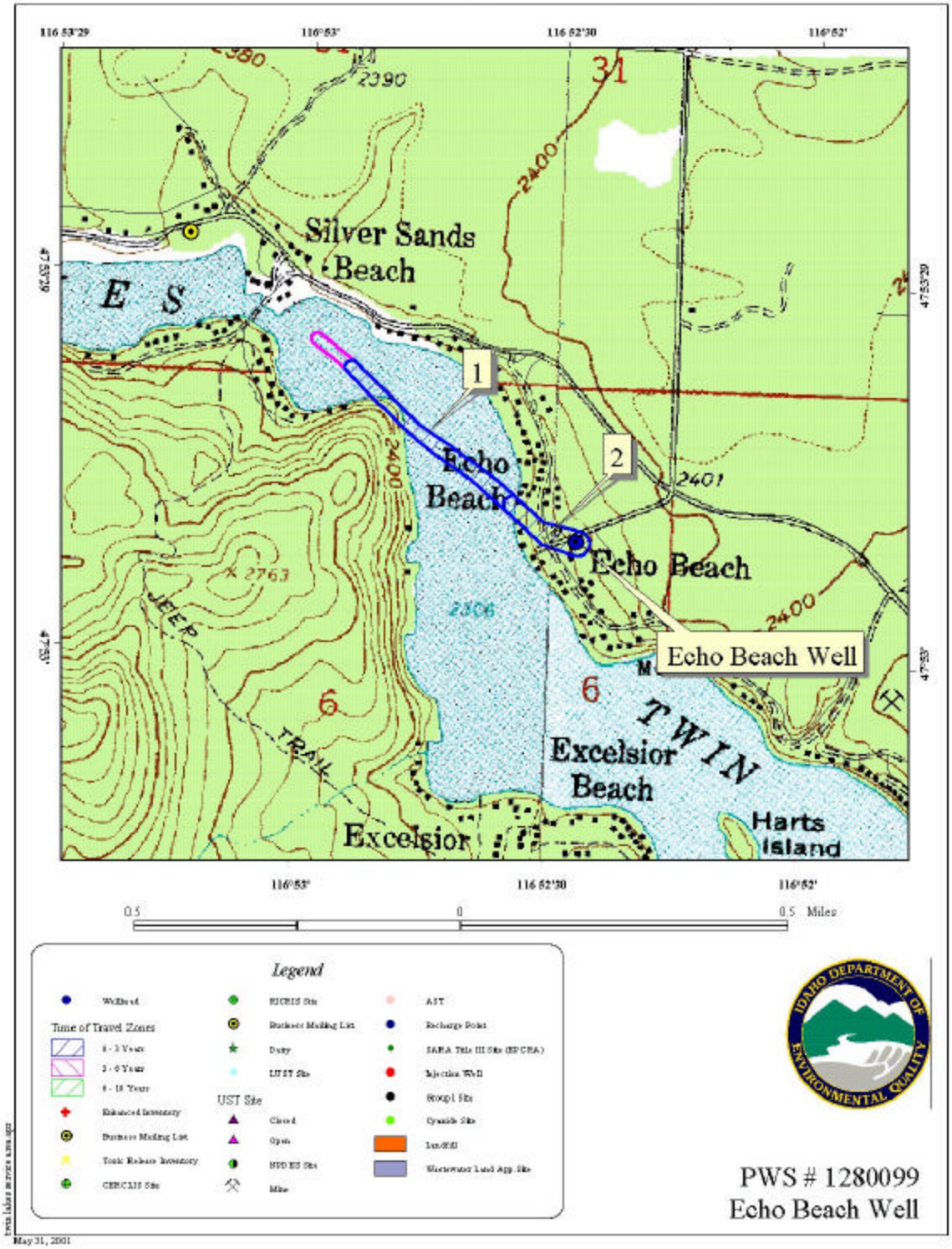


Figure 3. Twin Lakes Service Area Delineation and Potential Contaminant Inventory.



Hydrologic Sensitivity

Hydrologic sensitivity scores reflect natural geologic conditions at the well sites and in the recharge zones. Information for this part of the analysis is derived from individual well logs and from the soils drainage classification for the well recharge zone. All of the Twin Lakes Service Area wells scored 5 points out of 6 points possible in this portion of the susceptibility analysis. The depth to ground water in all the wells is about 300 feet, which provides some protection from potential contaminants through adsorption and other mechanisms. On the other hand, sand, gravel and cobbles fill the soil strata between the topsoil and the water table. There is not a significant clay layer to retard the vertical transport of contaminants.

Potential Contaminant Sources and Land Use

The Twin Lakes Service Area Tree Farm well recharge zones are mainly forested rural residential land. Most of the recharge area delineated for the Echo Beach well lies under Lower Twin Lake. Homes in the area are on individual septic systems.

Locations of potential contaminant sites inside the delineated recharge zones and in their general vicinity are shown on Figures 2 and 3. Table 2, *Twin Lakes Service Area Potential Contaminant Inventory* summarizes information about the sites identified inside the delineations. Twin Lakes and local roads were not counted in the Susceptibility Analysis because they are probably not significant threats to the wells. The railroad and Highway 41 which cross the 10-year time of travel zone for the Tree Farm wells were counted because of the volume of traffic on them

Table 2. Twin Lakes Service Area Potential Contaminant Inventory.

MAP ID NUMBER	SITE DESCRIPTION	SOURCE OF INFORMATION	POTENTIAL CONTAMINANTS[1]
Figure 2			
1	Scarcello Road	County Maps	
2	Highway 41	USGS and County Maps	IOC, SOC, VOC
3	Railroad	USGS Map	IOC, SOC VOC
Figure 3			
1	Surface Water	USGS Maps	
2	Twin Echo Road	USGS and County Maps	

[1] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Historic Water Quality

Historically, Twin Lakes Service Area has had few water quality problems other than isolated instances of microbial contamination in the distribution system. Water from the wells does not require disinfection. The system tests monthly for bacteria.

Twin Lakes Service Area tests annually for nitrates. Nitrate concentrations in water from the Tree Farm well field have been at undetectable levels since1996. Nitrate has not been detected in water from the Echo Beach well since 1997.

Synthetic organic compounds and volatile organic compounds have never been detected in the wells. Radiological contaminants in concentrations far below MCL have been present since testing began in 1985.

Arsenic at concentrations of 0.008 mg/l and 0.0070 mg/l was present in samples from the well field in 1992 and 1995 respectively. It was not detected in subsequent testing. The current Maximum Contaminant Level for arsenic is 0.05 mg/l. Arsenic was also present (0.001 mg/l) in a sample from the Echo Beach well in 1995, but was not detected when the water was tested in 1998.

Final Susceptibility Ranking

All of the Twin Lakes Service Area wells ranked moderately susceptible to all classes of regulated contaminants, mostly because of naturally occurring geological factors associated with the Rathdrum Prairie Aquifer. Cumulative scores for each well are summarized on Table 3. A complete Susceptibility Analysis worksheet for each well can be found in Attachment A.

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)
2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

The final ranking categories are as follows:

- 0 - 5 Low Susceptibility
- 6 - 12 Moderate Susceptibility
- > 13 High Susceptibility

Table 3. Summary of Twin Lakes Service Area Susceptibility Evaluation

Susceptibility Scores						
			Contaminant Inventory			
Well	System Construction	Hydrologic Sensitivity	IOC	VOC	SOC	Microbial
Tree Farm #1	3	5	3	3	3	0
Tree Farm #2	5	5	3	3	3	0
Echo Beach	4	5	0	0	0	0

Final Susceptibility Ranking				
Well	IOC	VOC	SOC	Microbial
Tree Farm #1	Moderate	Moderate	Moderate	Moderate
Tree Farm #2	Moderate	Moderate	Moderate	Moderate
Echo Beach	Moderate	Moderate	Moderate	Moderate

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical
HIGH* - Indicates source automatically scored as high susceptibility due to presence of bacteria or a VOC, SOC or an IOC above the maximum contaminant level in the tested drinking water

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. The state and local health districts have instituted enhanced protection of the ground water in the Rathdrum Prairie Aquifer because of its high use and uniquely pristine water quality. The protections are generally aquifer wide and are not aimed at zones of contribution to a specific well or water system. *The Spokane Valley-Rathdrum Prairie Atlas*, sent to water systems on the prairie when they were invited to perform an enhanced contaminant inventory, describes some of the regional protection measures.

The 186 public water systems in Idaho that draw water from the Rathdrum Prairie Aquifer should consider forming a regional group to represent their interests before state, county and municipal governing bodies when regulatory tools like zoning overlays, or enactment of building codes are the most appropriate ground water protection measures. These types of measures could be used to protect the capture zones of a specific system or group of wells that could be put at risk from local land use changes. Partnerships with state and local agencies and industry groups should also be established. For instance, source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, local Soil Conservation District, and the Natural Resources Conservation Service.

For source water protection in its own jurisdiction, Twin Lakes Service Area should first attend to the improvements outlined in the October 2000 Sanitary Survey, especially the electrical cable that was compromising the well seal of Well #2 at the time of the inspection. Coating the roof of the Tree Farm Reservoir is also important for preventing contamination. Twin Lakes Service Area should continue to promote its back flow prevention program. The district can sponsor public education efforts like distribution of "Buster Backflow" comics to schoolchildren in its service area. Water users can be invited to participate in voluntary ground water protection activities like household hazardous materials collection days.

Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

Assistance

Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the IDEQ office for preliminary review and comments.

Coeur d'Alene Regional DEQ Office (208) 769-1422

State IDEQ Office (208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at (208) 343-7001 for assistance with wellhead protection strategies.

References Cited

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "Recommended Standards for Water Works."

Idaho Department of Agriculture, 1998. Unpublished Data.

Idaho Division of Environmental Quality, 1994. Ground Water and Soils Reconnaissance of the Lower Payette Area, Payette County, Idaho. Ground Water Quality Technical Report No. 5. Idaho Division of Environmental Quality. December 1994.

Idaho Division of Environmental Quality, 1996. Lower Payette River Agriculture Irrigation Water Return Study and Ground Water Evaluation, Payette County, Idaho. Water Quality Status Report No. 115.

Idaho Department of Environmental Quality, 1997. Design Standards for Public Drinking Water Systems. IDAPA 58.01.08.550.01.

Idaho Department of Environmental Quality, 2000. City of Fruitland Wellhead Viability Project 319 Grant Final Report July 2000.

Idaho Department of Environmental Quality, 2000. *The Spokane Valley-Rathdrum Prairie Aquifer Atlas.*

Idaho Department of Water Resources, 1993. Administrative Rules of the Idaho Water Resource Board: Well Construction Standards Rules. IDAPA 37.03.09.

Natural Resource Conservation Service, 1991. Idaho Snake-Payette Rivers Hydrologic Unit Plan of Work. March 1991.

United States Geological Survey, 1986. Quality of Ground Water in the Payette River Basin, Idaho. United States Geological Survey. Water Resources Investigation Report 86-4013.

University of Idaho. 1986. Ground Water Resources in a Portion of Payette County, Idaho. Idaho Water Resources Research Institute. University of Idaho. Moscow, Idaho. April 1986.

Attachment A

Twin Lakes Service Area Susceptibility Analysis Worksheets

Ground Water Susceptibility Analysis

Public Water System Name : **TWIN LAKES SERVICE AREA** Source: **WELL 1**

Public Water System Number : **1280099** 5/31/01 12:32:11 PM

1. System Construction		SCORE			
Drill Date	2/19/75				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES 2000				
Well meets IDWR construction standards	YES	0			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**3**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	YES	0			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		**5**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		Score	Score	Score	Score
Land Use Zone 1A	RANGELAND, WOODLD, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	NO	0	0	0	0
(Score = # Sources X 2) 8 Points Maximum		0	0	0	0
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	25 to 50% Irrigated Agricultural Land	1	1	1	
Potential Contaminant Source / Land Use Score - Zone II		**1**	**1**	**1**	**0**
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	0	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**2**	**2**	**1**	**0**
Cumulative Potential Contaminant / Land Use Score		**3**	**3**	**2**	**0**
4. Final Susceptibility Source Score		**9**	**9**	**8**	**8**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility Analysis

Public Water System Name : **TWIN LAKES SERVICE AREA** Source: **WELL 2**

Public Water System Number : **1280099** 5/31/01 12:32:27 PM

1. System Construction		SCORE			
Drill Date	12/18/85				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES 2000				
Well meets IDWR construction standards	YES	0			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**3**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	YES	0			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		**5**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		Score	Score	Score	Score
Land Use Zone 1A	RANGELAND, WOODLD, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	NO	0	0	0	0
(Score = # Sources X 2) 8 Points Maximum		0	0	0	0
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	25 to 50% Irrigated Agricultural Land	1	1	1	
Potential Contaminant Source / Land Use Score - Zone II		**1**	**1**	**1**	**0**
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**2**	**2**	**2**	**0**
Cumulative Potential Contaminant / Land Use Score		**3**	**3**	**3**	**0**
4. Final Susceptibility Source Score		**9**	**9**	**9**	**8**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility Analysis

Public Water System Name : **TWIN LAKES SERVICE AREA** Source: **ECHO BEACH 3**

Public Water System Number : **1280099** 5/31/01 12:31:56 PM

1. System Construction		SCORE
Drill Date	UNKNOWN	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES 2000	
Well meets IDWR construction standards	UNKNOWN	1
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	UNKNOWN	2
Highest production 100 feet below static water level	NO	1
Well located outside the 100 year flood plain	YES	0
Total System Construction Score		**4**

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	NO	2
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	YES	0
Aquitard present with > 50 feet cumulative thickness	NO	2
Total Hydrologic Score		**5**

3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELD, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	NO	0	0	0	0
(Score = # Sources X 2) 8 Points Maximum		0	0	0	0
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**0**	**0**	**0**	**0**
Cumulative Potential Contaminant / Land Use Score		**0**	**0**	**0**	**0**
4. Final Susceptibility Source Score		**9**	**9**	**9**	**9**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.